

REDACTED -- FOR PUBLIC INSPECTION

Information]

[End Confidential Information].

63. In-building coverage will improve for both GSM and UMTS subscribers due to the denser cell grid and the benefits of low-band 850 MHz cellular spectrum. These network efficiencies, along with T-Mobile USA's spectrum holdings, will enable the combined company to deploy sufficient spectrum to accommodate demand and relieve network congestion, as well as migrate customers onto the integrated network. The transaction also gives AT&T the flexibility, depending on the particular characteristics of each market, to migrate T-Mobile USA subscribers to a more spectrally efficient technology over time.

64. The overall impact of the transaction on the combined company's network and capacity will be quite significant. Even with absorbing T-Mobile USA's customer base, the projected efficiency gains will increase capacity and thereby push back the dates of expected spectrum constraints in many markets and enable the combined company to re-purpose spectrum towards more efficient uses while ensuring that subscribers on less advanced technologies continue to receive quality service. It is equally important that the transaction will result in real, tangible benefits to subscribers throughout the country in the form of improved blocked and dropped call rates, consistent quality of service, and improved throughput speeds, among others.

VI. ALTERNATIVES TO THE TRANSACTION ARE NOT ADEQUATE

65. As mentioned above, AT&T invests significant capital and resources to keep pace with increasing demand, including purchasing and leasing spectrum; cell splitting and other means of optimizing the network capacity; deploying indoor and outdoor antenna systems, such as Wi-Fi hotspots and DAS networks; and implementing tiered pricing structures. Going

REDACTED -- FOR PUBLIC INSPECTION

forward, these options simply cannot address AT&T's capacity constraints anywhere near as effectively as this transaction.

66. AT&T continually seeks to purchase spectrum to improve coverage and quality in congested markets.²¹ However, there is not sufficient compatible, contiguous spectrum available in the secondary market to address AT&T's spectrum and network capacity constraints. Moreover, additional spectrum from the next FCC auction is not likely to become available for use for many years. Although AT&T holds 700 MHz and AWS spectrum, it cannot deploy these bands to support its GSM and UMTS networks for two reasons. First, AT&T's embedded customer base has handsets that operate on cellular and PCS spectrum and are not operable on AWS or 700 MHz technologies. Second, AT&T is using its AWS and 700 MHz spectrum holdings to deploy a nationwide LTE network, which is the most spectrally efficient way to serve growing demand.

67. AT&T seeks opportunities to expand capacity by adding new sites on an ongoing basis where feasible. AT&T cannot, however, add sites fast enough to meet the projected rate of demand for more capacity, for the reasons described below. This transaction provides an efficient, certain, and near-term solution because it provides at least **[Begin Confidential Information]** **[End Confidential Information]** T-Mobile USA sites that can be integrated, on a rolling basis, over a period of twenty-four months after the transaction's close.

²¹ See Declaration of Rick L. Moore, Senior Vice President of Corporate Development, AT&T Inc., ¶¶ 23-25 (April 20, 2011).

REDACTED -- FOR PUBLIC INSPECTION

This represents, on average, more than eight years of new site construction based on AT&T's 2010 build rates.

68. The tremendous cell density improvement that this transaction achieves where and when we need it simply could not be replicated by a new build program. T-Mobile USA's cell sites are the product of many years of intense effort to identify and secure the best cell site locations that would provide the greatest propagation benefits. Many of these cell sites are well located to address our capacity challenges and would provide the combined company with a much more robust platform that will allow us to carry more traffic than the two companies collectively could carry standing alone. Some of T-Mobile USA's well-placed cell sites appear to be in locations where we likely could not replicate them (*e.g.*, because space is unavailable). But even where duplication would be possible (albeit at much greater cost), it could not be accomplished in time to meet customer demand.

69. The construction of new sites requires a cumbersome process that is fraught with complexity and the potential for lengthy delays (*e.g.*, vendor equipment issues, acquisition, zoning, permitting, structural analysis, environmental studies). Among other things, the site-acquisition process involves engineering studies to identify prospective sites, as well as capital and financial analysis to purchase or lease property. Also, there are limits on the locations within the existing network where new sites may be built to address capacity issues. After years of aggressive cell-splitting activities to improve capacity, the search rings for those locations are smaller, and it has become increasingly difficult to find suitable locations.

70. Even after site-acquisition, there may be additional requirements before construction of a new site can actually begin. For example, the National Environmental Policy

REDACTED -- FOR PUBLIC INSPECTION

Act requires an extensive study to ensure that a new site will not have an adverse environmental impact.²² In addition, the National Historic Preservation Act requires notice and consultation with state historic preservation officers and representatives of Native American Tribes to guarantee that new sites will not adversely affect properties of historical or cultural significance.²³ The Federal Aviation Administration's regulations also require a determination that new antenna structures will not pose a hazard to navigable airspace.²⁴ Frequently the most significant barriers are state and local permitting and zoning requirements that may delay applications for years. The requirements in many key markets almost always involve substantial delays. In the San Francisco/Bay Area market, for example, it takes AT&T on average [Begin Confidential Information] [End Confidential Information] to obtain zoning approvals.

71. These delays are not likely to diminish in the near future. To the contrary, many municipalities face growing budget constraints and have reduced resources available to process tower site applications. And with expansion and technology upgrades by virtually all existing wireless providers and ambitious network construction plans by a host of new entrants, local governments are likely to struggle to keep up with demand. At the same time, the pace of cell site builds throughout the industry has limited the pool of available tower climbers and installers

²² National Environmental Policy Act, 42 U.S.C. § 4321 *et seq.*

²³ National Historic Preservation Act, 16 U.S.C. § 470f; *Nationwide Programmatic Agreement Regarding the Section 106 National Historic Preservation Act Review Process*, Report and Order, 20 FCC Rcd 1073, ¶¶ 24-28 (2004).

²⁴ FAA Obstruction Evaluation Regulations, 14 C.F.R. § 77.9 (Construction or alteration requiring notice).

REDACTED -- FOR PUBLIC INSPECTION

needed to complete the work. This is another gating factor that limits the pace at which builds can be accomplished.

72. Given the complexity and delays inherent in the process, AT&T was only able to complete approximately **[Begin Confidential Information]** **[End Confidential Information]** of the **[Begin Confidential Information]** **[End Confidential Information]** cell site builds it targeted, budgeted, and pursued for completion in 2010. In the Atlanta metropolitan area, AT&T completed only **[Begin Confidential Information]** **[End Confidential Information]** of the site builds that were planned for completion that year. For all of these reasons, it would simply not be possible for us to accomplish **[Begin Confidential Information]** **[End Confidential Information]** additional new site builds in the same period of time afforded by this transaction.

73. While we have pursued and will continue to pursue alternative measures for addressing congestion, such as deployment of outdoor DAS networks and Wi-Fi hotspots, these alternatives are high cost and ultimately cannot achieve the same nationwide efficiencies as the merger. These systems are designed to off-load traffic from AT&T's mobile broadband network to relieve congestion and improve voice and data service quality in very small, individual areas like a sports arena or a few city blocks. As such, they are not a viable substitute for the wide area coverage and capacity provided by cell towers. Moreover, in AT&T's experience, Wi-Fi hotspots provide less meaningful capacity relief than macro cell sites. AT&T has deployed 24,000 Wi-Fi hotspots as of the end of 2010, but these do not reduce UMTS traffic over AT&T's network enough to relieve capacity constraints. There are other challenges to utilizing Wi-Fi for additional capacity, including the difficulty in handing off traffic between Wi-Fi and cellular

REDACTED -- FOR PUBLIC INSPECTION

networks and getting subscribers to use Wi-Fi when available. DAS networks can provide meaningful traffic off-load, but are only effective in areas with either extremely high user densities, such as convention centers, stadiums, and universities, or coverage for limited geographic areas. An average outdoor DAS network also costs [Begin Confidential Information] [End Confidential Information] the cost to deploy a cell split with similar capacity, and [Begin Confidential Information] [End Confidential Information] more than adding a new carrier to existing sites. Moreover, the deployment of DAS networks can be subject to permitting and construction delays similar to cell splits. AT&T has also deployed over [Begin Confidential Information] [End Confidential Information] femtocells throughout the country, but these are designed to address in-home coverage issues more so than to increase network capacity and, accordingly, do not constitute a workable solution to capacity problems in most cases.

74. In short, combining AT&T's and T-Mobile USA's complementary network technologies, spectrum holdings, and network assets will provide a faster, more permanent, and, above all, more efficient solution to capacity concerns than any of the above alternative methods.

VII. CONCLUSION

75. Because AT&T and T-Mobile USA have complementary wireless technologies, spectrum holdings and network grids, the integration of the two networks provides the most effective, efficient, and immediate solution to the spectrum and capacity challenges that both companies face. The combined company will achieve network efficiencies that will exceed the sum of what the two companies can achieve on their own. Through increased cell density, channel pooling, utilization efficiencies, and the elimination of redundant control channels, the

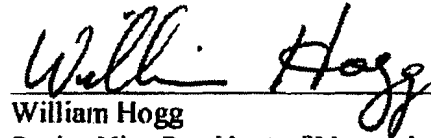
REDACTED -- FOR PUBLIC INSPECTION

integration of AT&T's and T-Mobile USA's networks will provide more efficient use of scarce spectrum resources.

76. These efficiencies, along with the spectrum and other resources gained from the transaction, will address the capacity constraints that threaten to degrade the quality of the wireless services that AT&T and T-Mobile USA subscribers receive. Moreover, the transaction will bring LTE to T-Mobile USA subscribers, and the combined company will bring LTE service to approximately 55 million people beyond AT&T's current deployment plans. The transaction's network synergies will improve subscriber experience and services. There will be fewer dropped and blocked calls, better coverage, and a faster and more consistent experience on both voice and data. The transaction presents a unique opportunity to integrate two complementary networks in order to provide the most advanced wireless services sooner and to more Americans than otherwise possible.

I declare under penalty of perjury that the foregoing is true and correct. Executed on
April 20, 2011.

Signed:

A handwritten signature in black ink, appearing to read "William Hogg", written over a horizontal line.

William Hogg
Senior Vice President of Network Planning
and Engineering
AT&T Services, Inc.

REDACTED – FOR PUBLIC INSPECTION

DECLARATION OF THORSTEN LANGHEIM

**Senior Vice President
Mergers & Acquisitions**

DEUTSCHE TELEKOM AG

I, Thorsten Langheim, hereby declare the following:

1. My name is Thorsten Langheim. I am Senior Vice President Mergers & Acquisitions of Deutsche Telekom AG (“Deutsche Telekom”) and have held this position since November 2009. I have been with Deutsche Telekom since November 2009. My responsibilities with Deutsche Telekom are the groups’ M&A activities. As such, I have a strong working knowledge of Deutsche Telekom’s operations.
2. I hold a Master of Science degree in International Securities, Investment and Banking from the ICMA Centre for Education and Research in London. I have a Bachelor degree in European Finance and Accounting from the University in Bremen (Germany) and Leeds Business School (United Kingdom). Prior to my position at Deutsche Telekom, I was Managing Director at Blackstone’s Private Equity Group, based in London and New York from 2004 - 2009, focusing on private equity investments in Germany. Before joining Blackstone in 2004, I was Vice President and member of the European M&A Execution Group in London and New York at J. P. Morgan from 1999 - 2004. I started my career in 1995 in the finance industry as an assistant director at West LB where I was involved in German M&A coverage and execution.
3. The purpose of this declaration is to describe the significant business reasons that drove Deutsche Telekom to enter into an agreement whereby AT&T Inc. (“AT&T”) will acquire T-Mobile USA, Inc. (“T-Mobile USA”) from Deutsche Telekom. Specifically,

REDACTED – FOR PUBLIC INSPECTION

focusing on the U.S. impact first, this declaration will show that the transaction will: (i) address T-Mobile USA's long term challenges, including the lack of a clear path to deploying LTE, the need for access to significant investment capital, and the need for substantial amounts of new radio spectrum; (ii) benefit T-Mobile USA's customers through access to a high quality network, improved coverage, and access to AT&T's portfolio of devices and innovative services; and (iii) advance the universal broadband deployment goals of the Obama Administration and the FCC's National Broadband Plan by providing LTE to over 97% of the U.S. population. In sum, the transaction will advance Deutsche Telekom's global business strategy to address struggling assets, like T-Mobile USA, and provide the resources necessary to modernize and upgrade Deutsche Telekom's core businesses in Europe, while retaining a sound investment in the U.S. wireless business through its stake in AT&T.

THE TRANSACTION WILL ADVANCE DEUTSCHE TELECOM'S BUSINESS STRATEGY TO MODERNIZE AND UPGRADE ITS CORE BUSINESSES IN EUROPE, WHILE RETAINING A SOUND INVESTMENT IN THE FAST-GROWING U.S. WIRELESS MARKET

4. The transaction will allow Deutsche Telecom to advance its business strategy to "fix, transform and innovate." The goal of the "fix, transform and innovate" strategy is to expand the company's important core business of providing fast network access by adding a broad portfolio of IT and Internet services. The "fix" element of the strategy involves reviewing our mobile-centric assets and determining the steps needed to deliver the highest levels of value to our shareholders and performance for our customers. This review has included all of Deutsche Telekom's properties. As discussed herein, review of T-Mobile USA identified a number of significant challenges. Addressing these challenges through the proposed transaction, along with Deutsche Telekom's other

REDACTED – FOR PUBLIC INSPECTION

initiatives in the United Kingdom and Poland, will largely complete the “fix” component of the strategy.

5. The transaction will also provide the resources necessary to materially advance the “transform” and “innovate” components of Deutsche Telekom’s strategy. The “transform” aspect refers to taking advantage of Deutsche Telekom’s integrated fixed and mobile assets and building fast and highly efficient networks. The “innovate” aspect refers to supporting Deutsche Telekom’s vision of a connected life for consumers and businesses incorporating unique information and communication technology solutions. Deutsche Telekom will receive \$39 billion for the sale of T-Mobile USA. \$25 billion of the sale price will be in cash and \$14 billion will be in AT&T shares (AT&T has the right to increase the portion of the purchase price paid in cash by up to \$4.2 billion with a corresponding reduction in the stock component).

6. The capital infusion resulting from the proposed transaction will substantially de-risk Deutsche Telekom by reducing the company’s debt and investment obligations. Using the cash proceeds from the transaction, Deutsche Telekom plans to reduce its debt by approximately €13 billion after closing, thereby saving the company significant costs via the reduced debt level. Further, the cash proceeds enhance Deutsche Telekom’s credit profile and financing capabilities. Overall, the transaction will enable Deutsche Telekom to strengthen its balance sheet. Deutsche Telekom’s total net debt/adjusted EBITDA ratio will decrease from 2.2x to 1.9x, and the total net debt will decrease from €42.3 billion to €29.2 billion—a reduction of 31 percent.

7. These material improvements in Deutsche Telekom’s balance sheet resulting from the proposed transaction will accelerate Deutsche Telekom’s ability to transform the

REDACTED – FOR PUBLIC INSPECTION

company by modernizing and upgrading its networks in Deutsche Telekom's core businesses in Europe. Moreover, it will facilitate innovation and enable Deutsche Telekom to focus on the opportunities of a modern infrastructure for new Internet products and services in Germany and Europe. And it will achieve these benefits while enabling Deutsche Telekom's participation—through its anticipated 8% stake in AT&T—in a promising competitor in the U.S. wireless market.

8. As a shareholder of AT&T after the transaction, Deutsche Telekom will be able to continue to have an interest in the United States wireless business and will significantly benefit from AT&T's strong dividend as well as have a seat on the Board. As noted above, Deutsche Telekom will take an interest in AT&T of up to 8 percent, based on current stock price, and will acquire a seat on AT&T's Board of Directors, thus becoming a significant shareholder in a leading U.S. telecommunications company. As a key minority shareholder, Deutsche Telekom will participate in the substantial synergies (as detailed in the Public Interest Statement) and will be able to continue to take part in the U.S. wireless business.

9. Deutsche Telekom's stake in AT&T will also result in a significant annual dividend. Although AT&T has made no commitment to any type of dividend, AT&T has paid a dividend every quarter for 105 quarters and has increased its regular quarterly dividend every year since 1984.

THE TRANSACTION WILL ADDRESS SIGNIFICANT CHALLENGES FACED BY T-MOBILE USA

10. Deutsche Telekom's review of T-Mobile USA as an element of its "fix" strategy identified a number of challenges. The objective of this review was to identify the steps needed for T-Mobile USA to deliver the highest levels of value and performance,

REDACTED – FOR PUBLIC INSPECTION

meaning robustly competing in the U.S. wireless business as measured by growing subscribers and market share, and fully exploiting new revenue opportunities through the deployment of innovative products and services over world class networks. T-Mobile USA faces significant challenges in achieving this vision.

11. T-Mobile USA has been struggling to remain a strong competitor in the wireless marketplace. Despite marketing efforts to improve its standing, T-Mobile USA has steadily lost market share—both nationally and across major markets—over the past two years. The U.S. is an extremely competitive market and T-Mobile USA has struggled to compete with both larger competitors such as Verizon, AT&T and Sprint, aggressively growing competitors such as MetroPCS and Leap, as well as a whole host of mobile virtual network operators (“MVNOs”) popular with consumers. While other competitors are quickly moving to build out and develop their LTE networks, T-Mobile USA lacks a clear path to deployment of LTE that is necessary for it to compete robustly in the U.S. longer term. Exponentially increasing demands for bandwidth to meet the demands of T-Mobile USA’s growing number of smartphone and Internet capable device users will require movement to LTE if T-Mobile USA is to remain competitive.

12. Unlike its competitors, however, T-Mobile USA does not have access to the spectrum needed to deploy LTE in an economically and technically sustainable fashion. T-Mobile USA has already dedicated its existing spectrum resources to GSM and HSPA+, which are less spectrally efficient than LTE. Moreover, despite intensive efforts to maximize use of T-Mobile USA’s existing frequencies, the company is facing spectrum constraints in a number of important local markets.¹

¹ See Larsen Declaration at ¶ 18.

REDACTED – FOR PUBLIC INSPECTION

13. T-Mobile USA has explored every available option for accessing new spectrum, including active participation in the FCC's ongoing efforts to identify new spectrum to be made available for wireless broadband. However, it is not anticipated that significant new spectrum will be auctioned in the timeframe necessary to align with T-Mobile USA's spectrum needs, and there is no certainty that T-Mobile USA would be the prevailing bidder in any future auction.

14. In addition, remaining a competitive force in the wireless marketplace and offering its customers fast and efficient services, including through LTE deployment, will require a very significant capital investment in both spectrum and infrastructure—approximately **[Begin Confidential Information]** **[End Confidential Information]**. The required substantial investments in LTE in the United States would significantly stretch Deutsche Telekom's financial capability or, alternatively, force Deutsche Telekom to reallocate investments from our core Europe operations into T-Mobile USA, which has been shrinking for the last two years and which is lacking a clear path towards LTE to stay competitive. Because Deutsche Telekom's financial priorities must be focused on Europe, however, Deutsche Telekom's CEO Rene Obermann has stated publicly that T-Mobile USA "has to develop into a self-funding platform that is able to fund its future itself." This means that T-Mobile USA would need to fund spectrum acquisitions and other necessary capital investments through its own operations rather than by drawing on the resources of its corporate parent. To this end, T-Mobile USA has been exploring a number of strategic options, including partnerships, joint ventures and network sharing arrangements, as well as the sale of non-core, non-strategic assets. These alternatives in general were found not to be economically viable, and none

REDACTED – FOR PUBLIC INSPECTION

could provide as much in terms of synergies and consumer benefits as the transaction with AT&T.

15. The proposed transaction with AT&T addresses all of these challenges facing T-Mobile USA far better than any of the alternatives available. Because AT&T and T-Mobile USA both use GSM/HSPA+ technologies and have complementary networks and spectrum holdings, the combined company will be in a position to take advantage of substantial spectrum and network efficiencies from the transaction that will allow it to improve coverage and service (these substantial efficiencies are described more fully in the declarations of Messers. Larsen and Hogg). Moreover, the combined company will also have access to the capital resources necessary to fund such LTE deployment (as explained in the declaration of Mr. Moore).² Addressing these challenges will position the merged firm to robustly compete in the U.S. wireless business.

THE TRANSACTION PROVIDES BENEFITS FOR T-MOBILE USA CUSTOMERS AND U.S. CONSUMERS BEYOND WHAT DEUTSCHE TELEKOM COULD PROVIDE ON A STAND ALONE BASIS.

16. T-Mobile USA customers and American consumers generally will gain meaningful benefits from the transaction, benefits which Deutsche Telekom would not be able to provide. Not only will T-Mobile USA customers quickly enjoy an enhanced customer experience with improved coverage and service, particularly in rural areas and in buildings³, but the transaction will also allow for the roll-out of LTE coverage to over

² See Moore Declaration at ¶ 14.

³ See Larsen Declaration at ¶ 9; Hogg Declaration at ¶ 58.

REDACTED – FOR PUBLIC INSPECTION

97% of Americans. In addition, upon closing, T-Mobile USA customers will have access to an expanded array of wireless devices.⁴

17. Longer term, the transaction will result in greater capacity and output than the sum of what AT&T and T-Mobile USA could provide with separate networks, allowing the combined company to meet consumers' growing demand for high bandwidth mobile services, to improve quality of service, and to help drive growth and investment in United States mobile broadband networks. The ability to expand LTE to over 97% of the American population is consistent with the announced objectives of the United States Government. Indeed, the combined AT&T/T-Mobile USA will be capable of delivering robust mobile voice and broadband data services to many parts of rural America that would otherwise lack access to such services.

CONCLUSION

18. Deutsche Telekom's sale of T-Mobile USA to AT&T advances Deutsche Telekom's business strategy to address its struggling assets, like T-Mobile USA, provides the resources necessary to modernize and upgrade Deutsche Telekom's core businesses in Europe, and allows Deutsche Telekom to retain a sound investment in the fast-growing U.S. wireless business through its stake in AT&T. It also directly addresses T-Mobile USA's long term challenges, including the lack of a clear path to deploying LTE, the need for access to significant investment capital, and the need for substantial amounts of new radio spectrum. The transaction will additionally benefit T-Mobile USA's customers through access to a high quality network, improved coverage, and access to AT&T's portfolio of devices and innovative services. Finally, the transaction will

⁴ See Moore Declaration at ¶ 29.


REDACTED – FOR PUBLIC INSPECTION

advance the universal broadband deployment goals of the Obama Administration and the FCC's National Broadband Plan by expanding LTE to over 97% of the U.S. population.

REDACTED – FOR PUBLIC INSPECTION

I declare under penalty of perjury under the laws of the United States that the foregoing is true and correct. Executed on April 20, 2011.

Signed:

A handwritten signature in black ink, appearing to read 'T. Langheim', written over a horizontal line.

Thorsten Langheim
Senior Vice President
Mergers & Acquisitions
Deutsche Telekom AG

Dated:

April 20, 2011

REDACTED – FOR PUBLIC INSPECTION

**DECLARATION OF DR. KIM KYLLESBECH LARSEN
Senior Vice President, Deutsche Telekom AG**

I, Kim Larsen, hereby declare the following:

I. BIOGRAPHICAL INFORMATION

1. I am the Senior Vice President, Technology Service and International Network Economics of Deutsche Telekom AG (“DT”) and am responsible for International Network Economics, a department that I founded within T-Mobile International in 2003. This area of responsibility includes techno-economical modeling, applied data mining, technology strategy and technology-related business development. My team’s techno-economical models, optimization and analyses support the DT group’s capital planning, strategic thinking and business development. I have an advisory role towards Deutsche Telekom executives on techno-economics topics including acquisition and mergers, spectrum economics, capex and technology cost structures, etc.

2. My professional experience includes DT’s acquisition and merger of Tele.ring in Austria (group responsible for technology due diligence and benefit analysis). I was also the technology lead on: (a) T-Mobile’s acquisition and merger of Orange Netherlands in The Netherlands and the technology post-merger integration of Orange Netherlands with T-Mobile Netherlands and (b) the joint venture (network sharing deal) between Orange UK and T-Mobile UK. I was the DT executive responsible for the business modeling and network design and planning including purchasing strategy and numerous other key strategic business development projects. I am also a Board member in Airway International, a Chinese broadband company. Moreover, I have been providing detailed DT group guidance of mobile capex demand and mobile technology cost structure for the annual budget process, using my own developed capex

REDACTED – FOR PUBLIC INSPECTION

demand model considering all relevant market, strategic, traffic and technology drivers. In addition, I have developed several advanced traffic engineering models being used by the DT group to understand the impact of mobile broadband and smartphone uptake in the mobile network for HSPA and LTE.

3. Prior to my current role, I was responsible for designing, planning and building the T-Mobile NL (*i.e.*, former Ben BV) mobile transport, core and value added service networks. During this period, I developed the UMTS technical business model for evaluating and supporting the 3G license bid. I hold a Ph.D, degree in Physics from Aarhus University, Denmark and a Masters degree in Physics and Mathematics, also from Aarhus University. After my Ph.D., degree I carried out fundamental and applied physics research at various research organizations in Europe. During my academic career, I have written and contributed to more than 40 scientific papers published in academically recognized journals.

II. INTRODUCTION AND SUMMARY

4. I have reviewed the Declaration of William Hogg (“Hogg Declaration”).

5. Specifically, I have reviewed Section III in the Hogg Declaration. I concur with his description of the evolution of wireless technologies and the challenges posed to wireless providers in the United States.

6. Additionally, I have reviewed the technical assertions made in Section V in the Hogg Declaration concerning efficiencies gained through the combination of AT&T and T-Mobile USA (“T-Mobile USA”) and concur with those findings. There should be significant efficiency gains from merging the two GSM-based networks.

REDACTED – FOR PUBLIC INSPECTION

7. One way in which the networks should experience gains in efficiency is from the elimination of redundant GSM control channels. I concur with the estimates made in the Hogg Declaration that 4.8 to 10 MHz of spectrum (20% efficiency gain) will be freed up from control channel efficiency gains. Another source of efficiencies is the complementary infrastructure grids of both companies. This will allow for rapid site sharing and cell splitting that will expand capacity and improve service quality for both customer bases.

8. In most markets, the GSM quality (for T-Mobile USA and AT&T customer bases) should improve by providing more effective spectral capacity due to channel pooling efficiency gains and increased cell site density (*i.e.*, as described in the Hogg Declaration). Furthermore, on average there will be more spectrum available for voice and data usage, due to the described efficiency gains, which will reduce traffic load and improve quality.¹ In top markets, the quality gain in call drop and call setup success rates should be significant.

9. In sum, I believe there will be substantial benefits for all subscribers (T-Mobile USA as well as AT&T) resulting from the transaction, including higher GSM quality and greater spectrum capacity available for HSPA+ and/or LTE, thus boosting mobile voice and data quality. T-Mobile USA has no clear path to LTE without this transaction and so T-Mobile USA customers will benefit from the availability of LTE. Aggressive re-farming of existing spectrum, if possible, **[Begin Confidential Information]**

[End Confidential

Information]. Such a roll-out, in any event, would not be competitive with other wireless

¹ This is often described as optimized fractional load in frequency hopping implementations with high frequency re-use.

REDACTED – FOR PUBLIC INSPECTION

providers' LTE offerings unless additional spectrum was secured. **[Begin Confidential Information]**

[End Confidential Information]

Information] Additionally, T-Mobile USA subscribers will have substantially improved coverage reach and depth, including rural and underserved areas, due to the lower frequency bands used by AT&T. Moreover, the T-Mobile USA infrastructure grid is complementary to AT&T's network, thereby allowing for rapid site sharing and cell splitting that will provide immediate benefits to consumers. Due to the complementary nature of the technologies used by both companies, this transaction realizes greater efficiencies than would any other alternative.

10. T-Mobile USA is also already facing capacity constraints due to explosive growth in data services. Absent the availability of additional spectrum, T-Mobile USA is projected to reach capacity exhaustion in as much as **[Begin Confidential Information]**

[End Confidential Information]

The merger with AT&T will allow T-Mobile USA a clear path to LTE in an efficient, expeditious fashion.

III. T-MOBILE USA IS FACING SPECTRUM EXHAUSTION ISSUES

11. T-Mobile USA currently operates a second generation digital mobile service using the GSM standard on its 1.9 GHz PCS spectrum.² T-Mobile USA's GSM network covers approximately 280 million people in 48 states, the District of Columbia, Puerto Rico and the Virgin Islands. T-Mobile USA has approximately **[Begin Confidential Information]**
[End Confidential Information] GSM-only subscribers, which make up approximately **[Begin**

² T-Mobile USA has a single 850 MHz cellular license that also utilizes GSM.

REDACTED – FOR PUBLIC INSPECTION

Confidential Information] **[End Confidential Information]** of its overall subscriber base. The vast majority of T-Mobile USA's GSM subscribers have multi-band devices that are compatible with AT&T's GSM systems in the 850 MHz cellular and PCS bands. T-Mobile USA has also deployed HSPA and HSPA+, including dual carrier HSPA+, using its 1.7/2.1 GHz AWS spectrum. T-Mobile USA's HSPA network now covers 212 million POPs and its HSPA+ coverage includes 200 million POPs. T-Mobile USA currently serves approximately **[Begin Confidential Information]** **[End Confidential Information]** UMTS subscribers with its HSPA/HSPA+ network.³

12. T-Mobile USA has experienced explosive growth in mobile wireless demand over the past several years. This is primarily due to T-Mobile USA's HSPA+ network expansions which utilize its 1700/2100 MHz Advanced Wireless Service ("AWS-1") spectrum and the concomitant growth in use of data services by its customers. T-Mobile USA has also deployed a very extensive fiber-to-the-base-station network (*i.e.*, **[Begin Confidential Information]** **[End Confidential Information]** of T-Mobile USA HSPA cells will be served by fiber by the end of 2011) allowing for improvements in data speeds. Nonetheless, T-Mobile USA faces spectrum exhaust in a number of markets due to explosive growth in demand.

13. More specifically, T-Mobile USA has experienced very rapid growth in data traffic over the past 4 years, which is expected to increase with the accelerated penetration of smartphones and associated data plans in the contract segment. By 2015, T-Mobile USA expects data traffic on its network to be at least 20 times that of the 2010 level.

³ T-Mobile USA's HSPA+ subscribers can (and will) make use of the GSM network where there is no HSPA+ coverage.